

EMS Continued:

- Visible Light

- The ONLY portion of the EMS which can be detected by the human eye.
- Distinct colors: Red, orange, yellow, green, blue, violet
- Red \rightarrow longest wavelength, lowest frequency, lowest energy
- Violet \rightarrow shortest wavelength, highest frequency, highest energy
- "White light" is a combination of all colors, which can be separated by a prism

- UV (Ultraviolet):
 - Higher frequency than visible light
 - Our atmosphere absorbs most of this kind, which is good
- X-Rays:
 - Higher frequency than UV
 - Has enough energy to pass through tissue, but not bone. This produces good images of bone.
 - Too much exposure can cause cancer

- Gamma Rays:

- Shortest wavelength of the EMS
- Highest energy of EMS
- Cause serious damage to organisms, but fortunately our atmosphere absorbs almost all of it.
- Naturally occur in:
 - Radioactive material on Earth
 - Fission and fusion reactions
 - Sun spots